

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

NA S&PF
St. Paul Field Office

St. Paul To reports

REPLY TO: 5220 Detection

S-4-77

November 4, 1977

SUBJECT: Forest tent caterpillar, spruce budworm, and drought survey

TO: Forest Supervisor
Ottawa National Forest



Insect and disease detection aerial surveys were made on June 14 and July 7, 1977 on the Ottawa National Forest and nearby State and private lands by the personnel from Forest Insect and Disease Management staff and the National Forest. The purpose of the aerial surveys was to detect and delineate forest tent caterpillar, spruce budworm, and drought damage.

The surveys were flown at about 1,000 feet above the forest canopy and at air speeds of 120-140 mph. Both surveys were flown in a Piper PA-32. The flight lines were in an east-west direction six miles apart. Visible defoliation and mortality were sketched on a Forest map, 0.25 inches to the mile scale.

The following codes were used to designate defoliation:

L - M Light to Moderate, 20-50% foliage loss.

M - H Moderate to Heavy, over 50% foliage loss.

Areas of less than 20% defoliation could not be seen from the air.

The following acreages were affected by forest tent caterpillar on and adjacent to the Ottawa National Forest (Table I, Fig. 1).

Table I. Acres defoliated by the forest tent caterpillar, 1977.

Defoliation Class	National Forest	State & Private	Total
L - M	70,000	166,000	236,000
M - H	58,000	185,000	243,000
Total	128,000	351,000	479,000

The current outbreak in the Upper Peninsula is in its third year. Our data combined with Michigan DNR survey information, shows that the infestation area encompassed 741,000 acres in 1977; 119,000 acres were in the heavy category while 622,000 acres were in the L - M category. So far, no significant tree mortality has resulted from the present outbreak. Past outbreaks have lasted 2 to 4 years; numerous reports of the parasite Sarcophaga aldrichi, may signal a downward trend for populations in 1978.

2.

The following acreages were affected by the spruce budworm on and adjacent to the Ottawa National Forest (Table 2, Fig. 2).

Table 2. Acres defoliated by the spruce budworm, 1977.

Defoliation Class	National Forest	State & Private	Total
L - M	60,000	26,000	86,000
M - H	28,000	20,000	58,000
Total	88,000	56,000	144,000

A total of 881,000 acres were defoliated on the Ottawa National Forest in 1977; this is down considerably from the 217,000 acres reported last year. Only 28,000 acres were in the M - H defoliation category. The Michigan DNR, however, reported increasing damage in Iron and Marquette counties.

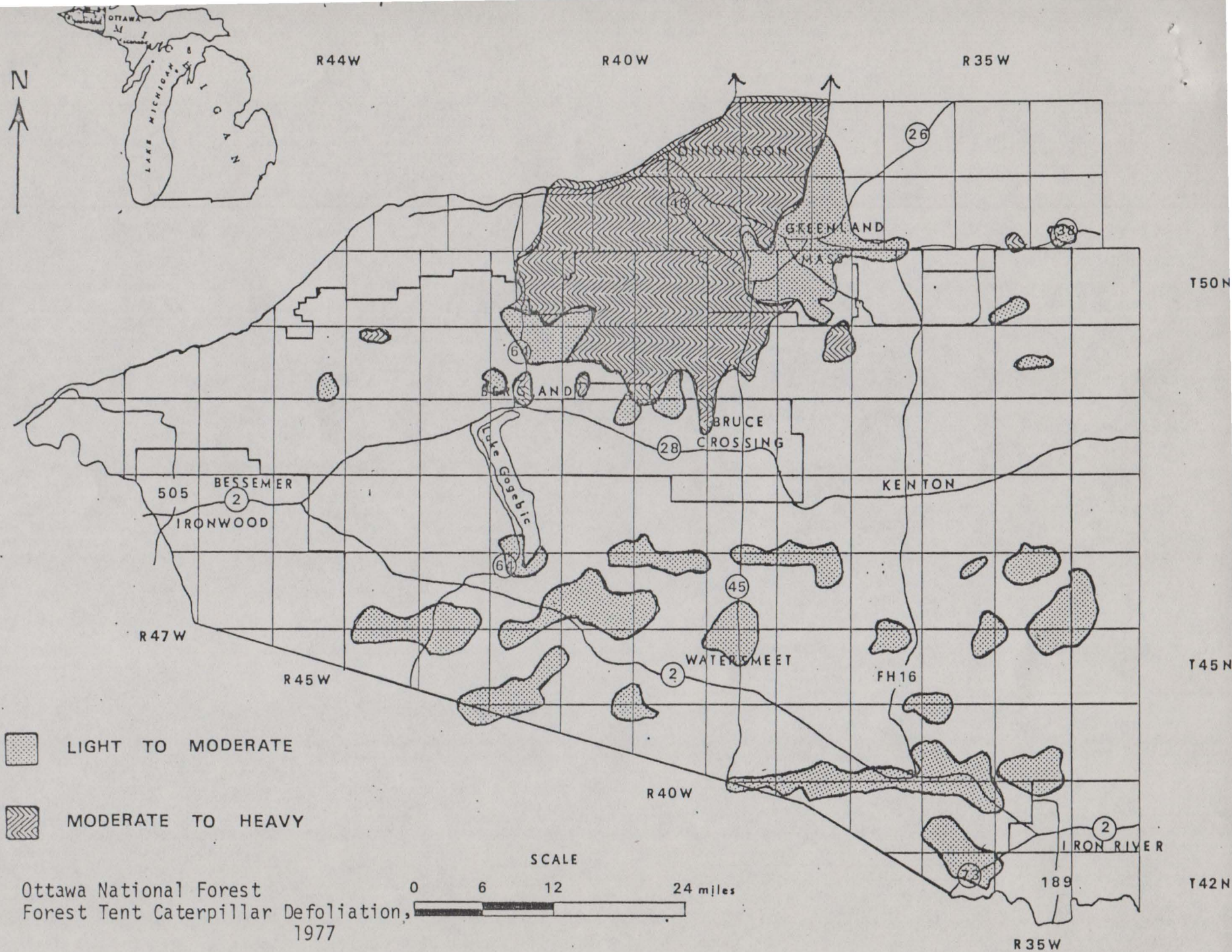
Approximately 5,000 acres showed visible symptoms of drought damage (Fig. 3). Species exhibiting damage included red pine, jack pine, oak, and maple. Jack pine on rock outcrop areas was the most severely affected species.

No surveys are planned for the forest tent caterpillar or the spruce budworm in 1978.

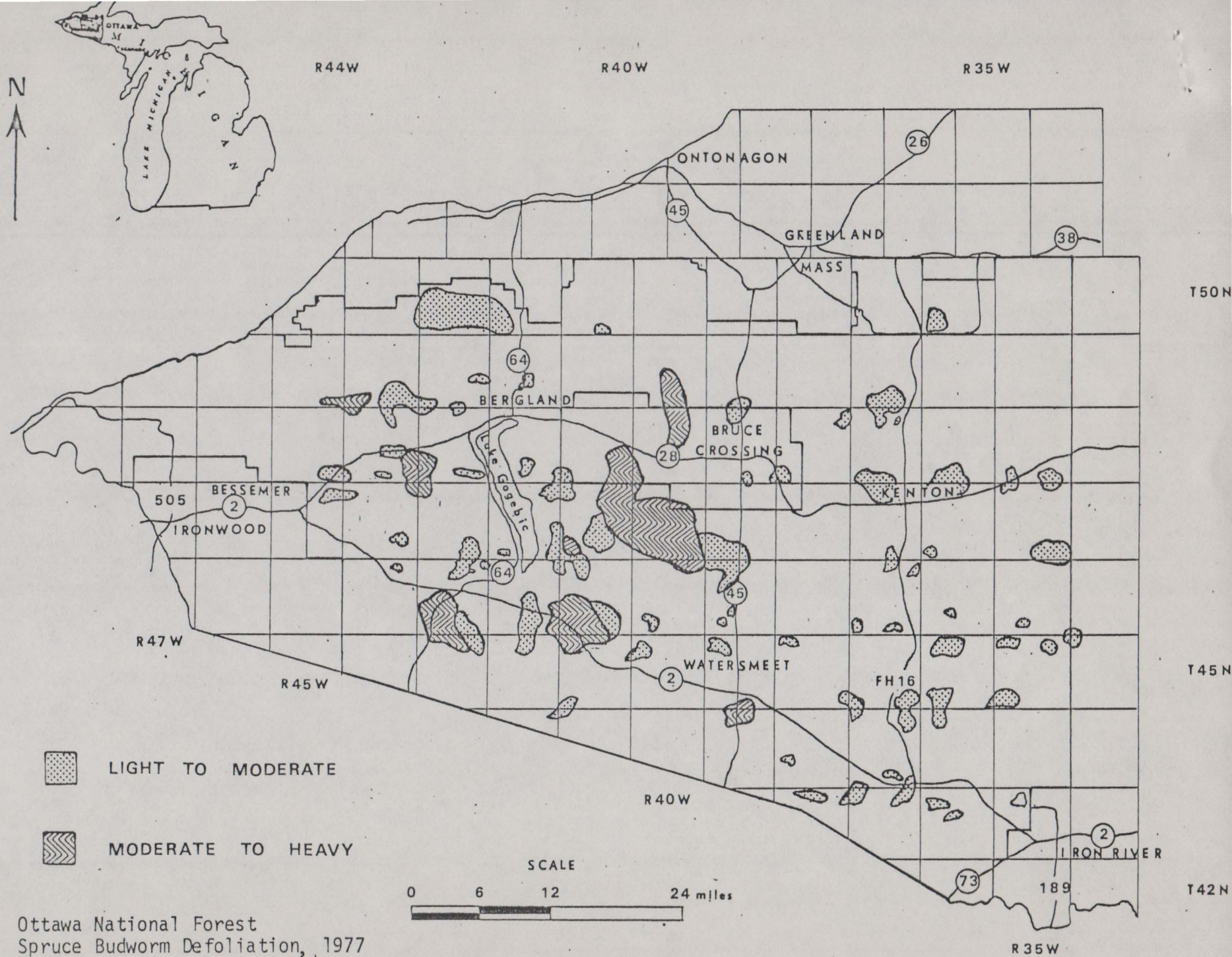


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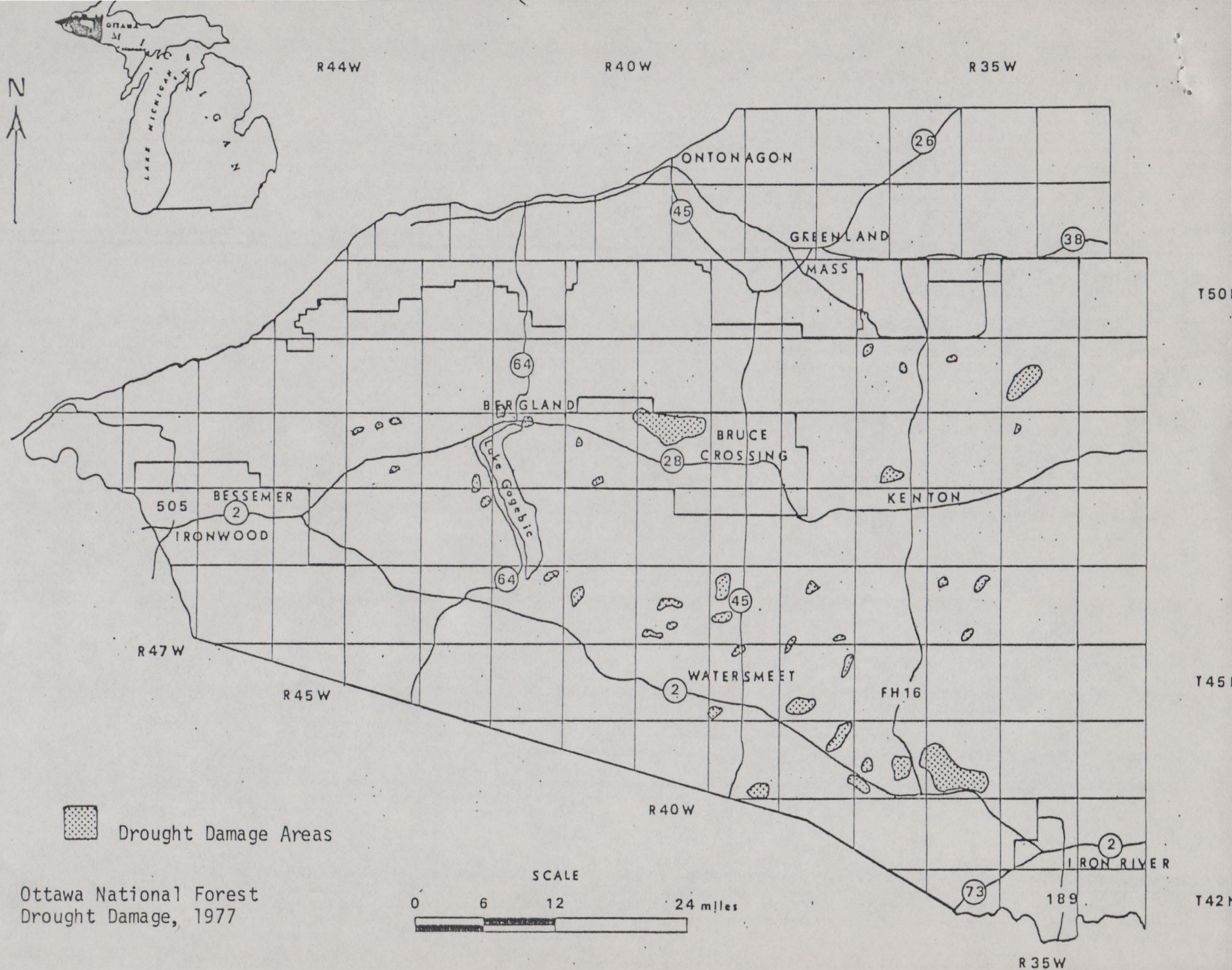
Enclosures



(Fig. 1) Ottawa National Forest
Forest Tent Caterpillar Defoliation,
1977



(Fig. 2) Ottawa National Forest
Spruce Budworm Defoliation, 1977



(Fig. 3) Ottawa National Forest
Drought Damage, 1977